

CHAPTER 22

GEOGRAPHIC INFORMATION SYSTEMS

PURPOSE:

This chapter establishes the administration and use of Geographic Information Systems to improve the quality and accessibility of Department's spatial information and support graphical analysis of georeferenced data.

AUTHORITY:

Sections 20.23(4)(a) and 334.048(3), Florida Statutes (F.-S.)

SCOPE:

This chapter applies to District, Turnpike, and Central Office units with the Florida Department of Transportation that use Geographic Information Systems.

22.1 DEFINING GEOGRAPHIC INFORMATION SYSTEMS

A Geographic Information Systems (GIS) is a technology that is designed to capture, store, manipulate, analyze, manage and present geographical data. It is the policy of the Department to deploy enterprise-wide GIS applications for its engineering, operations, planning and administrative function.

Enterprise ~~Geographic Information Systems~~ (GIS) is an organization-wide framework for the Department's communication and collaboration of shared GIS resources. Through structured integration of GIS components, enterprise GIS combines centralized management with decentralized operations, and enables FDOT to best leverage its GIS resources. A carefully planned enterprise GIS complements existing business processes and provides an efficient way to plan, analyze, and manage transportation infrastructure and related elements.

22.2 GOVERNANCE

GIS is managed at a statewide level to leverage resources more effectively, increase productivity for operations, provide cost savings, and optimize benefits of the services the Department provides. The following management structure is in place to facilitate effective communication and coordination of GIS resources, activities, and people.

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22.2.1 GIS Management Steering Committee (GIS MSC)

The GIS MSC provides leadership for the Department's enterprise GIS strategy and promotes a consistent vision for FDOT's GIS resources and activities. The GIS MSC also resolves any operational issues related to GIS that are escalated by the GIS Functional Steering Committee (GIS FSC). Members are appointed by the FDOT Secretary, and the Assistant Secretary for Engineering and Operations serves not only as the GIS MSC Chairman but also as the GIS Executive Sponsor. FDOT Executive Board decisions can supplement the need for Management Steering Committee directions.

22.2.2 GIS Functional Steering Committee (GIS FSC)

The GIS FSC is chaired by the FDOT GIS Coordinator and provides a GIS forum for the appointed GIS Coordinators from each of the Districts and many offices within Central Office (Maintenance, Work Program Administration, Safety, Transportation Statistics, Environmental Management, Survey and Mapping, Traffic Engineering, Systems Planning, Information Systems). The goal of the GIS FSC is to serve as a forum for the participants to identify and address issues that are encountered during the various phases of an enterprise GIS, whether strategic, administrative or technical. Each of the appointed members are voting contributors and are critical to the functionality of the committee.

22.2.3 FDOT GIS Coordinator

The FDOT GIS Coordinator is appointed by and reports to the GIS Executive Sponsor. The GIS Coordinator serves as the Chair of the GIS FSC and is the designated GIS liaison to other GIS organizations including state, local, and federal agencies. The GIS Coordinator provides technical leadership for GIS strategy and initiatives by communicating best practices and guidelines to assist CO and the Districts with effective uses of GIS technologies. The GIS Coordinator also assists with identifying existing and emerging opportunities that improve the effectiveness of Department programs through the use of GIS technology, procurement of GIS software, hardware and training, coordination of statewide GIS data and licensing, review and oversight for GIS projects submitted by offices and Districts, development of technical standards, policies, procedures.

22.2.4 District GIS Coordinators

The role of the District GIS Coordinators is to represent an enterprise GIS view while acting as a liaison between the various committees and the District. This role includes sharing innovative ideas and solutions that support the Department's GIS Strategic

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Plan, collaborate on the development of GIS standards and best practices as well as assisting in the creation and oversight of subcommittees and technical teams as needed. Additionally, GIS Coordinators act as District advocates in obtaining GIS resources needed to leverage GIS data and technology effectively within the Department's strategic and technical framework. Other duties include but are not limited to: serving as a State GIS Steering Committee Representative; ensuring the adherence to the enterprise/District GIS goals, standards and application development; facilitating joint development of data with other Districts, local agencies and organizations; and coordinating GIS educational and training opportunities for the District. The District Coordinator facilitates communication within the GIS community for District via web pages, discussion groups and maintenance agreements, stays current with GIS technology changes, coordinates data requests from outside the agency and helps develop a District view of spatial data access and dissemination

22.2.5 GIS Strategic Advisor/OIS Manager

The GIS Strategic Advisor coordinates and collaborates with the FDOT GIS Coordinator, steering committees and business offices to recommend an effective and consistent vision for FDOT's GIS resources and activities, supports the development and implementation of the Department's enterprise GIS Strategic Plan and provides coordination for GIS technical support for Information Technology resources and projects. The GIS Strategic Advisor also provides technical review and oversight for GIS application projects submitted by offices and Districts to insure project management controls are in place, assists with identifying existing and emerging opportunities and coordinates with OIS on GIS technical framework activities required to support effective enterprise GIS development.

22.3 DISTRIBUTED ENTERPRISE GIS

GIS ~~sh~~will be centrally managed as an enterprise technology supporting a decentralized architecture. This architecture is characterized by both centralized and distributed applications, databases and web services. Many datasets remain in the stewardship and storage of the data owner, but enterprise standards for data quality, metadata, format and access are defined to allow efficient data sharing.

22.3.1 Information Resource Management Council

The Information Resource Management Council (IRMC) provides executive oversight for enterprise initiatives, including GIS, to ensure consistency with Department goals, objectives and priorities.

22.3.2 Business System Support Office

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The Department has implemented a Backup License Manager of the Primary License Manager. The Backup License Manager resides on a server hosted by the Turnpike Enterprise.

Representatives from each user group are included in a list of authorized personnel that may call Esri for Technical Support. This list is maintained by SMO/FDOT PRIMARY and Esri.

The GIS Framework (the Framework) was developed by the Department in support of enterprise GIS decisions from the GIS FSC as directed by the Executive Board. The Framework provides a common set of GIS commands and capabilities that are to be used in the development of FDOT GIS websites. By using the Framework, GIS

workgroups in the Districts and CO develop and share customized tools and features. This ability to leverage the GIS expertise throughout the Department is a critical component of the goals and objectives outlined in the GIS Strategic Plan.

The Enterprise Framework handles user interface ~~(UI)~~ generation, security, and user interaction. GIS Tools/Components implement application logic only, relying on the Enterprise Framework to handle other details listed above. Capabilities created on the Framework ~~sh~~will use ~~web-Web~~ services and/or the ArcGIS Server Javascript API. This approach allows the Department to leverage all Central Office and District development efforts and reduce duplication.

The Framework shall be updated, maintained and distributed by the BSSO, in collaboration with the FDOT GIS Coordinator, the GIS FSC and all Department GIS developers.

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22.6 ARCGIS ONLINE

GIS@FDOT is the portal for FDOT's organizational account for ArcGIS Online. ArcGIS Online is a subscription based service, therefore a limited number of members and usage credits are available. Accounts ~~sh~~will be disseminated across offices and ~~D~~istricts based on current desktop license usage and business needs. There are four levels of user privileges established for members of GIS@FDOT. ~~They are:~~ Account Administrator, Local Administrator, Internal Publisher, and Internal User. Each ~~D~~istrict and functional area ~~sh~~will have at least one local administrator to assist with user and content management.

Refer to the GIS@FDOT_Best Practices document available on the FDOT GIS SharePoint site.

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